

Claims

1. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system, comprising:

5 receiving a request from a system BIOS to locate an amount of conventional memory where the amount of conventional memory accommodates at least a decompressed version of data located in an option ROM BIOS;

determining availability of the amount of conventional memory requested by the system BIOS;

10 if it is determined that the amount of conventional memory requested by the system BIOS is not available, the method includes,

reading a system BIOS data located within the conventional memory where the system BIOS data occupies at least the amount of conventional memory requested by the system BIOS;

15 writing the system BIOS data from the conventional memory to an extended memory; and

deleting the system BIOS data located in the conventional memory that has been written into the extended memory.

20 2. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 1, further comprising:

deleting a decompressed code from the option ROM BIOS located in the conventional memory where the system BIOS data originally resided;

reading the system BIOS data in the extended memory after an initialization code has been executed to initialize a processing component;

writing the system BIOS data from the extended memory to the conventional memory address where the system BIOS data originally resided before the system BIOS data was migrated to the extended memory.

3. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 1, wherein the data located in the option ROM BIOS to be decompressed includes at least an initialization code, decompressor interim segment, and decompressing parameters.

4. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 1, wherein the system BIOS data is located between the memory addresses of about 2000:00 and about 9000:00 of the conventional memory.

5. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 3, wherein the size of the initialization code is about 64k, the size of the decompressor interim segment is about 64k, and the size of the decompressing parameters is about 16k.

6. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system

as recited in claim 1 wherein the writing the system BIOS data from the conventional memory to an extended memory is done in a protected mode.

7. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 1, wherein the deleting the system BIOS data located in the conventional memory that has been written into the extended memory is done in real mode.

8. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 2, wherein the reading the system BIOS data in the extended memory after an initialization code has been executed to initialize a processing component is done in protected mode.

9. A method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 2, wherein the deleting a decompressed code from the option ROM BIOS located in the conventional memory where the system BIOS data originally resided is done in real mode.

10. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system, the computer readable media comprising:

program instructions for receiving a request from a system BIOS to locate an amount of conventional memory where the amount of conventional memory accommodates at least a decompressed version of data located in an option ROM BIOS;

5 program instructions for determining availability of the amount of conventional memory requested by the system BIOS;

program instructions for reading a system BIOS data located within the conventional memory where the system BIOS data occupies at least the amount of conventional memory requested by the system BIOS if it is determined that the amount of conventional memory requested is not available;

10 program instructions for writing the system BIOS data from the conventional memory to an extended memory; and

program instructions for deleting the system BIOS data located in the conventional memory that has been written into the extended memory.

15 11. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 10, the computer readable media further comprising:

20 program instructions for reading the system BIOS data in the extended memory after an initialization code has been executed to initialize a processing component;

program instructions for deleting a decompressed code from the option ROM BIOS located in the conventional memory where the system BIOS data originally resided;

25 program instructions for writing the system BIOS data from the extended memory to the conventional memory address where the system BIOS data originally resided before the system BIOS data was migrated to the extended memory.

12. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 10, wherein the data located in the option ROM BIOS to be decompressed includes at least an initialization code,
5 decompressor interim segment, and decompressing parameters.

13. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 10, wherein the system BIOS data located is between the memory addresses of about 2000:00 and about 9000:00 of the conventional memory.

14. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 12, wherein the size of the initialization code is about 64k, the size of the decompressor interim segment is about 64k, and the size of the decompressing parameters is about 16k.

15. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 10, wherein the writing the system BIOS data from the conventional memory to an extended memory is done in protected mode.

16. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 10, wherein the deleting the system BIOS data located in the conventional memory that has been written into the extended memory is done in real mode.

17. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 11, wherein the reading the system BIOS data in the extended memory after an initialization code has been executed to initialize a processing component is done in protected mode.

18. A computer readable media having program instructions for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 11, wherein the deleting a decompressed code from the option ROM BIOS located in the conventional memory where the system BIOS data originally resided is done in real mode.

19. A computer implemented method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system, comprising:

executing a request from a system BIOS to locate an amount of conventional memory where the amount of conventional memory accommodates at least a decompressed version of data located in an option ROM BIOS;

determining availability of the amount of conventional memory requested by the system BIOS;

migrating a system BIOS data located within the conventional memory to an extended memory if it is determined that the amount of conventional memory requested is not available;

deleting the system BIOS data remaining in the conventional memory; and

5 returning a migrated system BIOS data in the extended memory to the conventional memory after an initialization code has been executed to initialize a processing component.

10 20. A computer implemented method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 19, wherein the data located in the option ROM BIOS to be decompressed includes at least an initialization code, decompressor interim segment, and decompressing parameters.

15 21. A computer implemented method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 19, wherein the system BIOS data is located between the memory addresses of about 2000:00 and about 9000:00 of the conventional memory.

20 22. A computer implemented method for optimizing of memory resources during an initialization routine of a computer system which prepares the computer system for loading of an operating system as recited in claim 20, wherein the size of the initialization code is about 64k, the size of the decompressor interim segment is about 64k, and the size of the decompressing parameters is about 16k.

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23. A method for optimizing memory resources during an initialization routine of a computer system, comprising:

executing a request to locate an amount of conventional memory, where the amount of conventional memory accommodates at least a decompressed version of BIOS data;

5 determining availability for the requested amount of conventional memory;

migrating a system BIOS data located within the conventional memory to an extended memory if it is determined that the amount of conventional memory requested is not available;

deleting the migrated system BIOS data from the conventional memory; and

10 returning the migrated system BIOS data from the extended memory to the conventional memory after the BIOS data has been initialized in the conventional memory.

24. A method for optimizing memory resources during an initialization routine of a computer system as recited in claim 23, wherein the BIOS data is associated with an Option ROM BIOS.

25. A method for optimizing memory resources during an initialization routine of a computer system as recited in claim 23, wherein the BIOS data is initialized to run a processing component.

26. A method for optimizing memory resources during an initialization routine of a computer system as recited in claim 25, wherein the processing component is a host adapter.

27. A method for optimizing memory resources during an initialization routine of a computer system as recited in claim 26, wherein one or more peripheral devices are connected to the host adapter.

5 28. A method for optimizing memory resources during an initialization routine of a computer system as recited in claim 26, wherein the host adapter is one of a SCSI controller and a RAID controller.

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